

[0038] FIG. 6 illustrates one example of the display 200 illustrating both a first portion 202 displaying a plot of the parameter 220, as illustrated in FIG. 5, as well as a key 203 related to the plot of the parameter 220. Further, while not included in the exemplary illustration the display 200 may include any suitable labels and each chart may have a title indicating the parameter being plotted as well as units displayed. Further, the second portion 204, displaying plots of raw data 240, related to the parameter, for some of the variables have been illustrated. At least some of the displayed plots of the raw data 240 are displayed in separate portions of the second portion 204.

[0039] The raw data may be any suitable data received from the system. By way of non-limiting example, the asset may include an engine for an aircraft and the plots of raw data 240 may include a plot related to the exhaust gas temperature at 241, which may be expressed in degrees centigrade, a plot related to the fan spool speed at 242, which may be expressed as a percentage, a plot related to the core spool speed at 243, which may be expressed as a percentage, a plot of a fuel flow rate at 244, which may be expressed in pounds per hour, a plot of the compressor discharge static pressure at 245, which may be expressed in pounds per square inch absolute, and a plot of a compressor outlet temperature at 246, which may be expressed in degrees centigrade. It will be understood that any suitable plots of raw data may be included in the second portion 204 and that such plots will change depending on the asset or component being monitored. Further, each of the plots may include a fleet upper limit, a fleet lower limit, and fleet mean value. At least some of the displayed plots of the raw data may identify anomalous data for the variables. Anomalous data may be determined when a comparison indicates that the data satisfies a predetermined threshold. The term "satisfies" the threshold is used herein to mean that the variation comparison satisfies the predetermined threshold, such as being equal to, less than, or greater than the threshold value. It will be understood that such a determination may easily be altered to be satisfied by a positive/negative comparison or a true/false comparison. For example, a less than threshold value can easily be satisfied by applying a greater than test when the data is numerically inverted. In the illustrated examples, when the plots are outside of the fleet upper limit or fleet lower limit it may be determined that the data is anomalous.

[0040] By way of further non-limiting example, the method may also include simultaneously with the display of the plot of the parameter 220 and the raw data in the second portion 204, displaying on a third portion 207 of the display 200, different from the first portion 202 and the second portion 204, a plot of another feature related to the parameter. For example, an influence factor for at least some of the displayed raw data may be illustrated in the third portion 207. The influence factor may measure the degree to which that underlying parameter is driving the behavior in the plot of the parameter 220. By way of further example, the method 100 may also include simultaneously with the display of the plot of the parameter, raw data, and influence factor, displaying on a fourth portion of the display 208, different from the first portion 202, second portion 204, and third portion 207, a plot of yet another feature related to the parameter. For example, a residual for at least some of the displayed raw data may be illustrated in the fourth portion 208. In the illustrated example, each plot of raw data has a corresponding plot for influence factor and residual although this need not be the

case. Further, at least some of the displayed plots for the influence factor and residual may identify anomalous data.

[0041] In the illustrated example, the first portion 202 is arranged as a row along with the plots of raw data 240, plots of influence factors 250, and plots of residuals 260. The rows are arranged top to bottom in the following order: first portion 202, second portion 204, third portion 207, and fourth portion 208, although this need not be the case. In this manner, the remainder of the display 200 is used to plot relevant parameters for the selected model. Typically, the second portion 204 would include the raw data, or the input data to the model. Subsequent rows may include alternative information such as deltas/residuals (i.e. the difference between the models expected value and the actual measure value), or measures of how much the individual parameter has contributed to the overall component health index (e.g. influence factors). In the illustrated example, the second portion 204, third portion 207, and fourth portion 208 are arranged in rows, with the plot of raw data 240 and corresponding plot of influence factor and plot of residual are arranged within the rows to form a column. It is contemplated that to make the data easier to read that each column contains plots for the same parameter and each row is the same type of feature or illustrates the same function. Further, since the charts may be very small on the overall display 200 the X-axis labels may not be shown, since these are the same for all charts. It will be understood that all of the X-axes may have the same dimension and scale.

[0042] Further, all of the plots including the plots of raw data, influence factor, and residuals may be contained within a separate window, which can be expanded in response to a user input. Further, each chart may be capable of expanding including to the size of the full screen, zoomed and panned. For example, FIG. 7 illustrates the plot 255 expanded larger than its normally displayed size. While the plot 255 has been shown only partially expanded it will be understood that each of the charts may be expanded to any suitable size including to a full size of the display excluding the first portion and to the full size of the display. Furthermore, it is contemplated that data in one portion may be selected and associated data on all portions may be highlighted.

[0043] FIG. 8 is another exemplary chart schematic that may form a first portion of the display. This embodiment is similar to the display illustrated in FIG. 5; therefore, like parts will be identified with like numerals increased by 100, with it being understood that the description of the like parts of FIG. 5 applies to this embodiment, unless otherwise noted. One difference is that on the first portion 302 of the display a plot of a related parameter 380 for the first time period is also displayed. Further, data points 382 from which the plot of the parameter 380 has been derived from are illustrated, although this need not be the case.

[0044] Furthermore, as illustrated in FIG. 9, on the second portion 304 of the display a plot of at least raw data, related to the related parameter is also displayed. Further still, plots related to the related parameter are included in the plots of influence factors 350, and plots of residuals 360. The plots related to the related parameter may provide a user with additional useful information and may more easily allow a user to see data trends by comparing with related asset data that was operating at the same time under the same conditions. By way of non-limiting example, the parameter may correlate with information related to a first engine 12 on the aircraft 10 and the related parameter may correlate with information related to a second engine 12 on the aircraft 10. For